

FIG. 1A

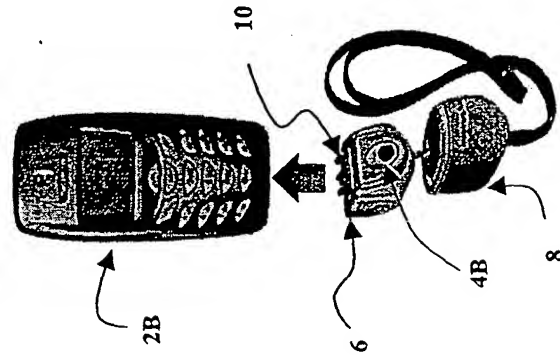


FIG. 1B

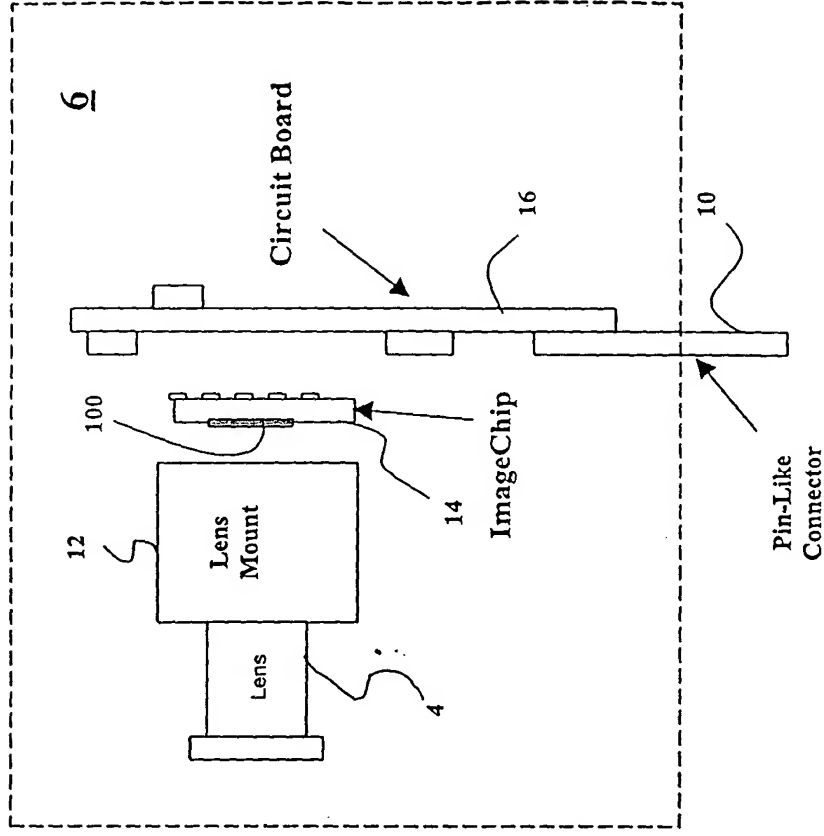


FIG. 1C

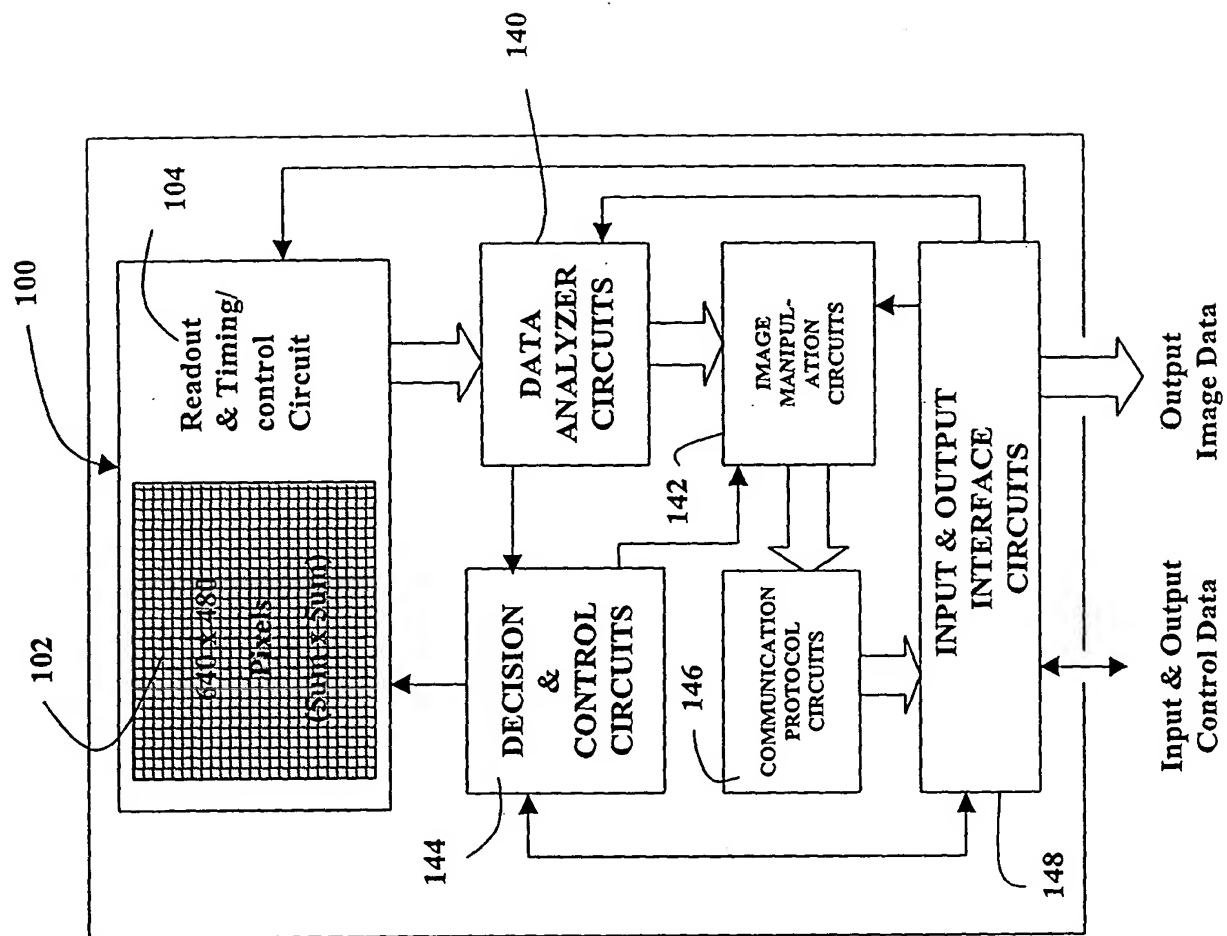


FIG. 2

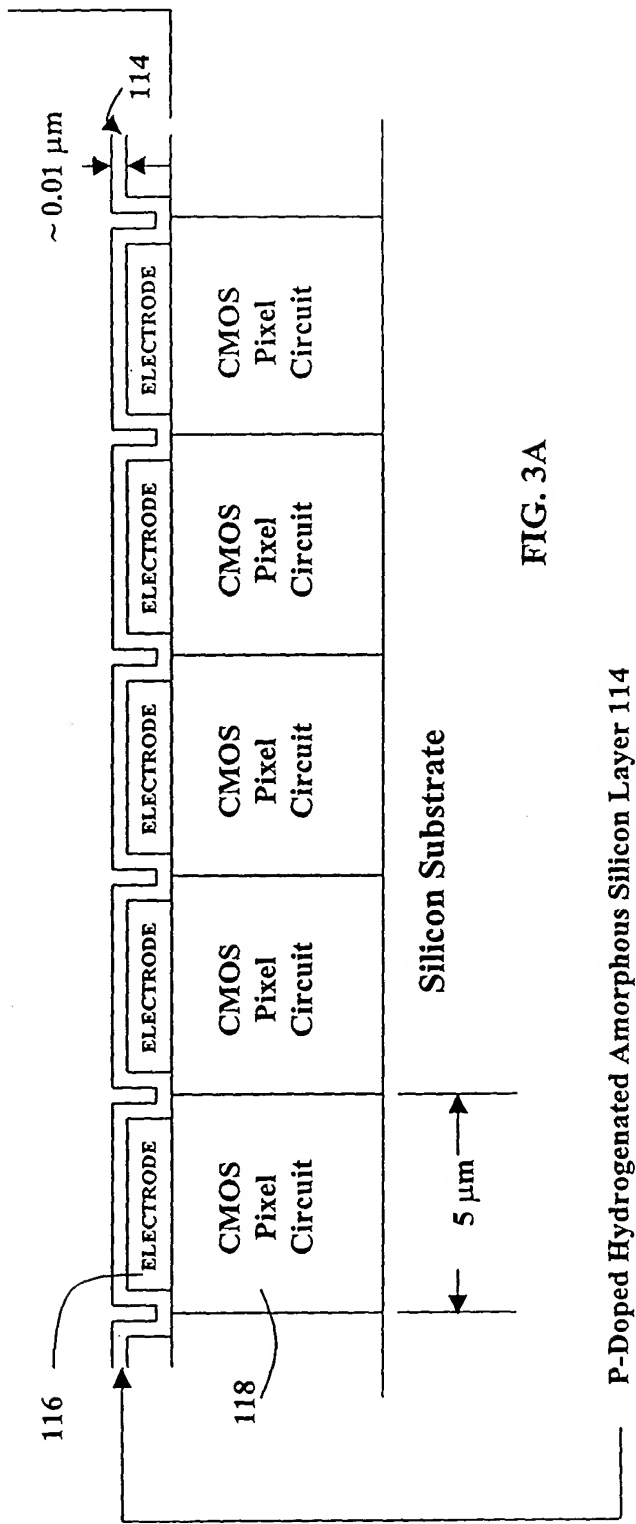
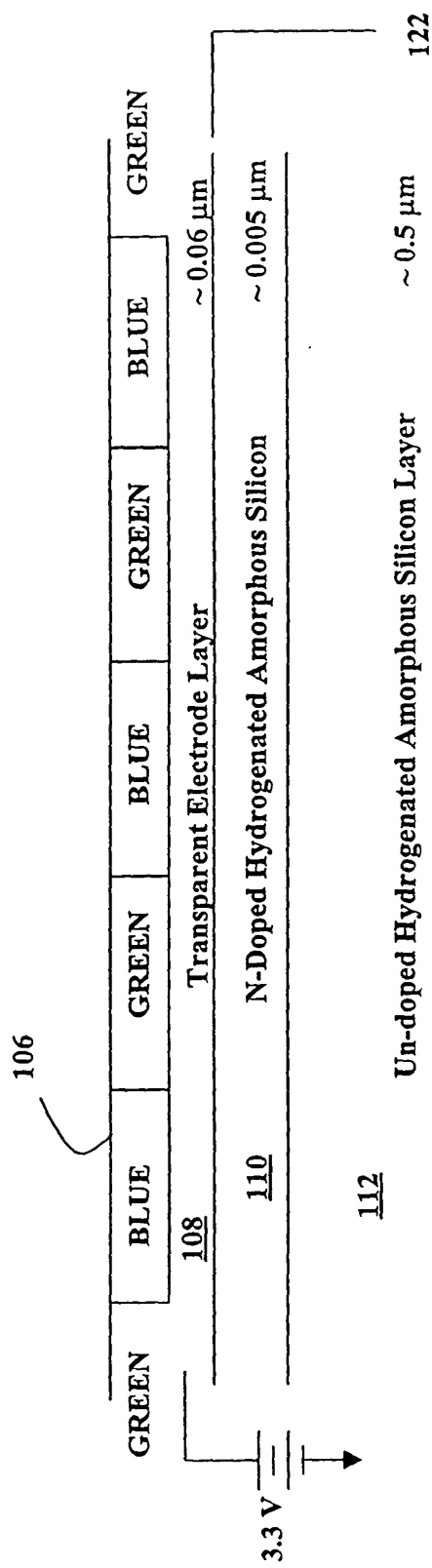


FIG. 3A

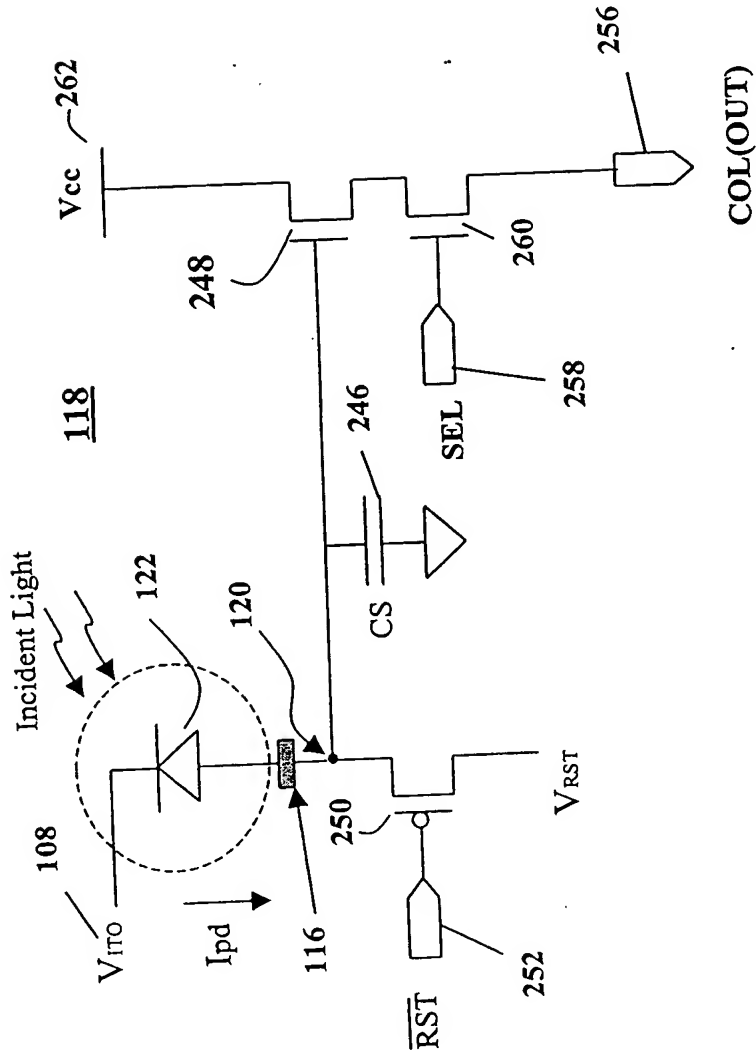
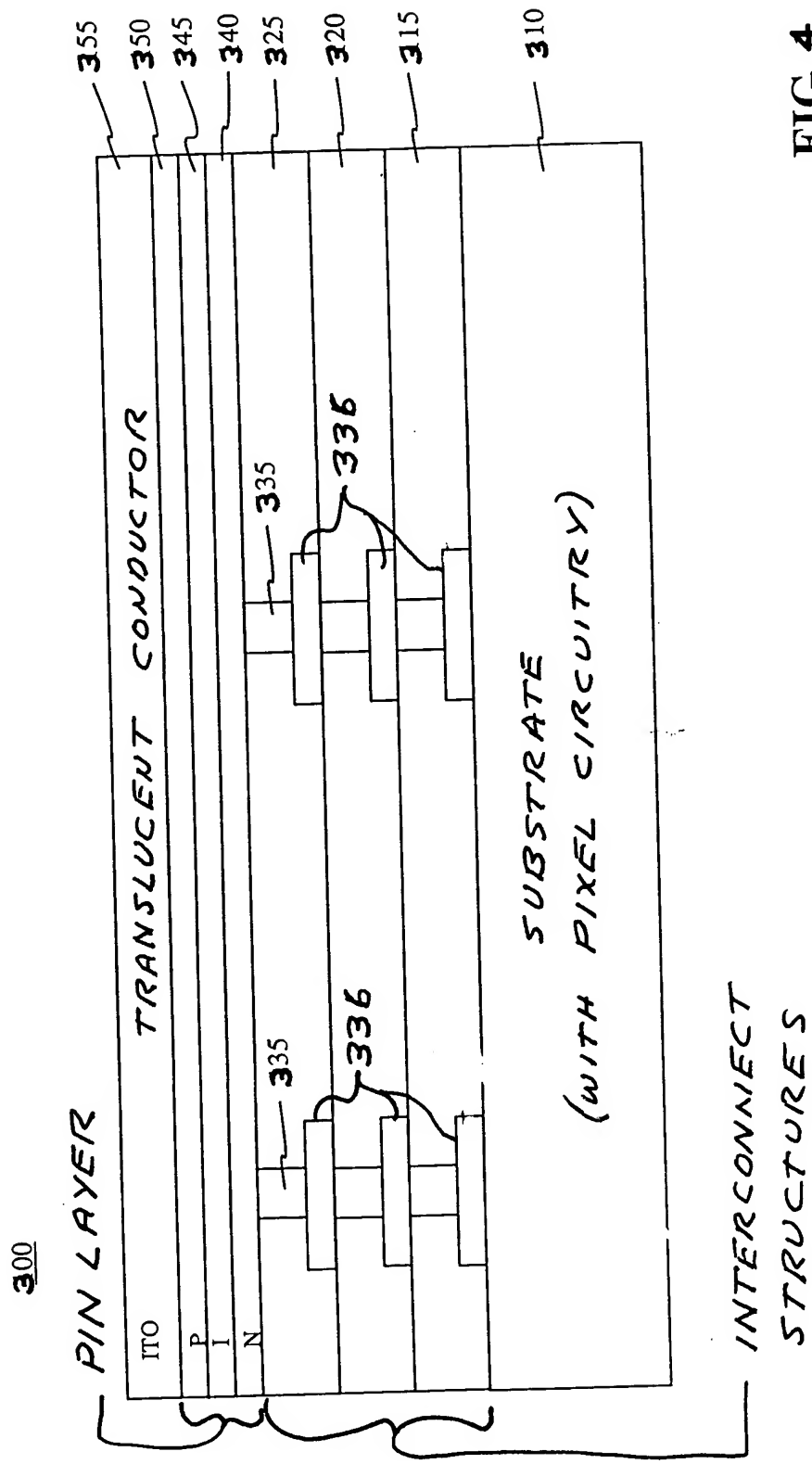


FIG. 3B

FIG. 3C

R	G	R	G	R
G	B	G	B	G
R	G	R	G	R
G	B	G	B	G

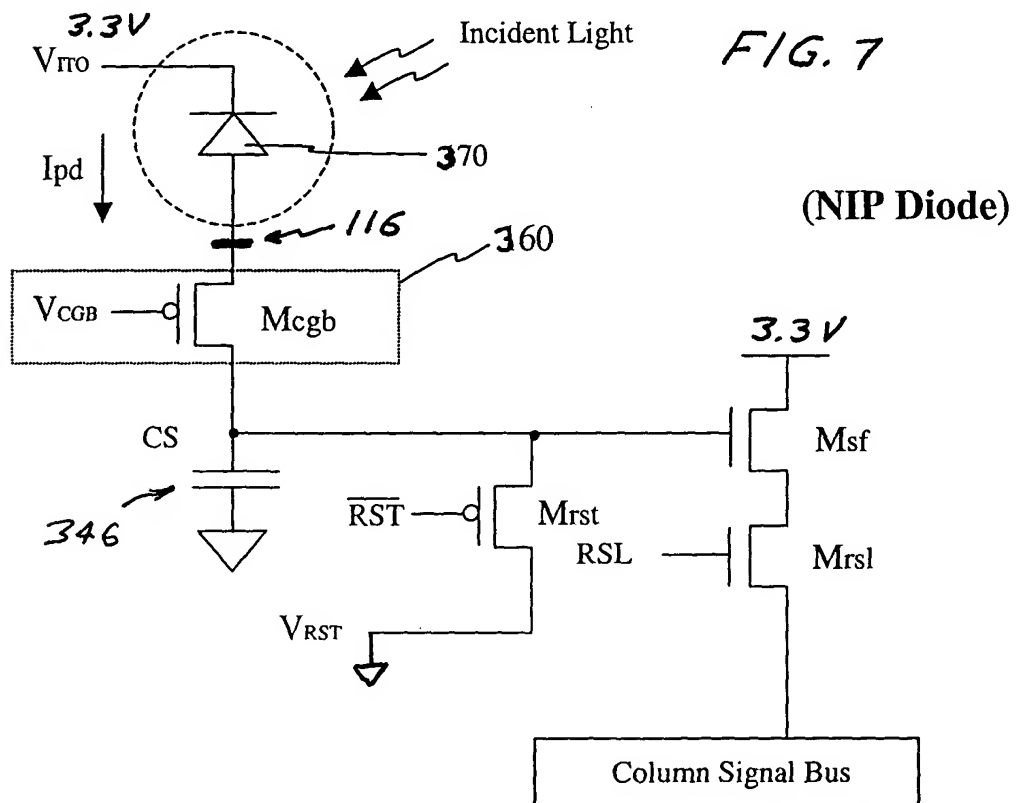
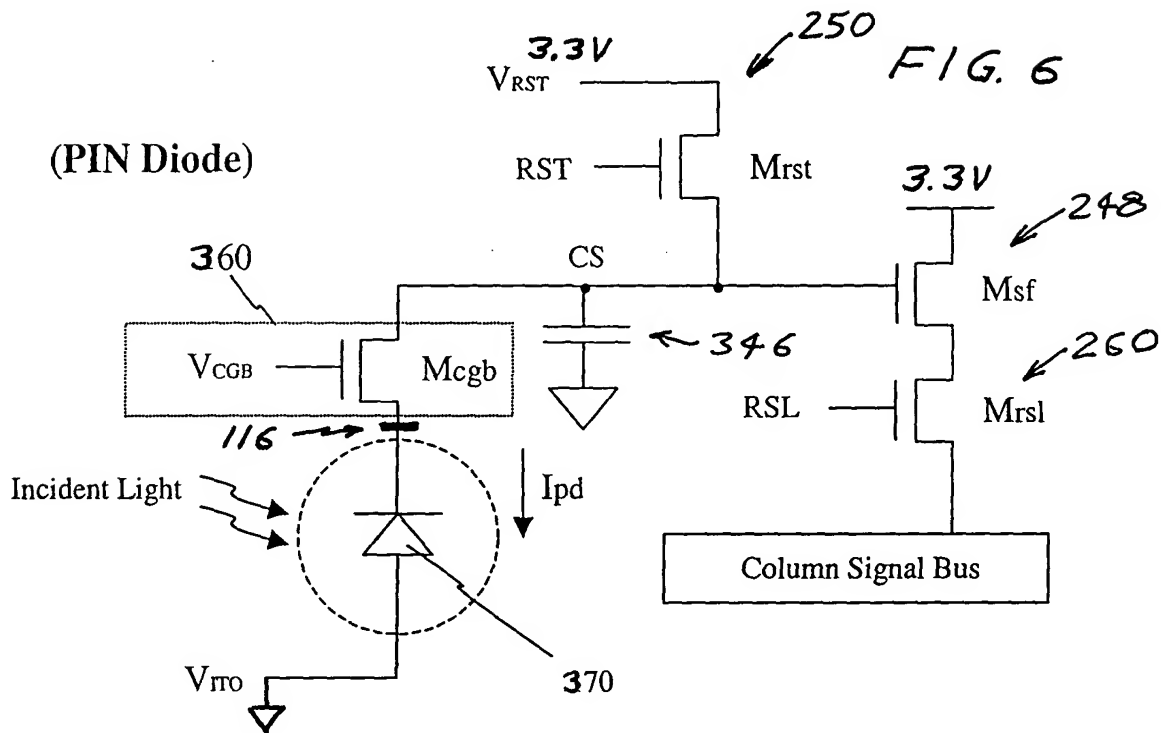
POAP Sensor Pixel Cell Array



300



Individual Pixel Cell Circuitry



400

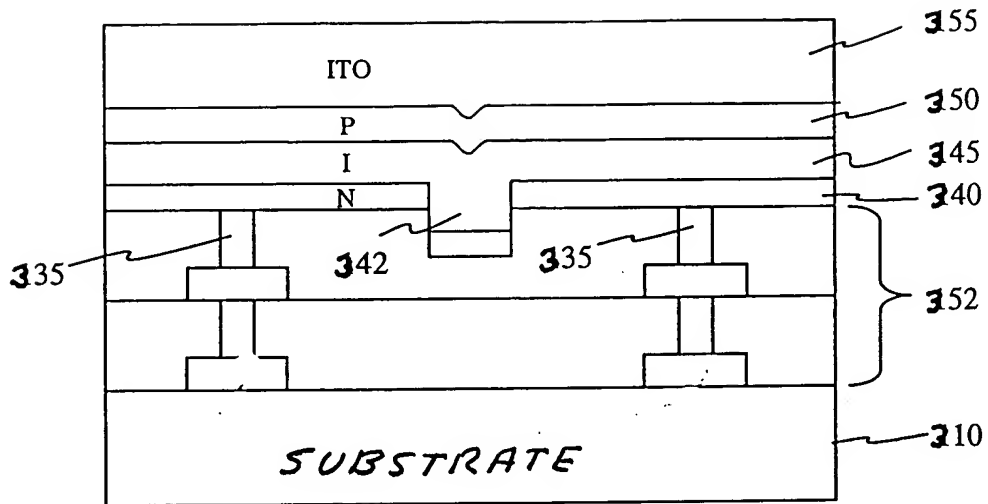


FIG. 8

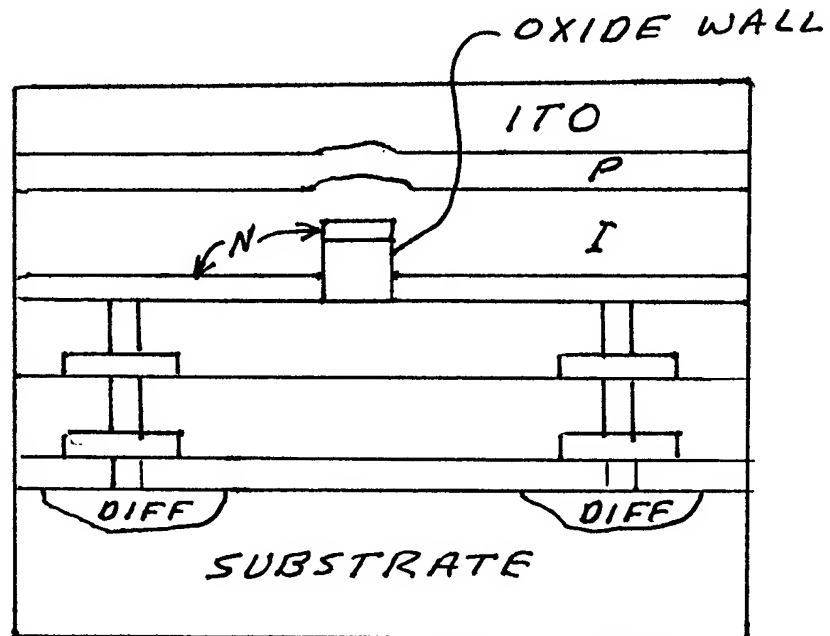


FIG. 8A

500

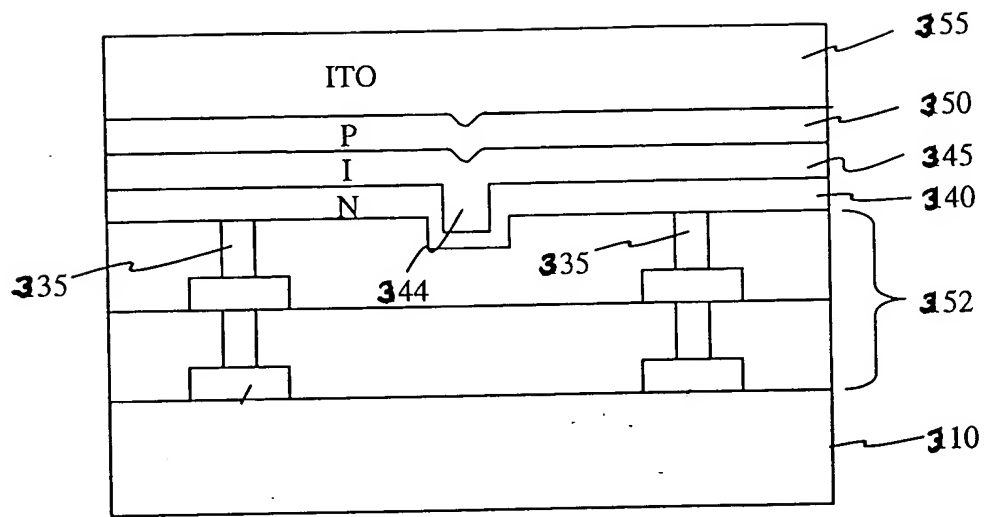


FIG. 9

600

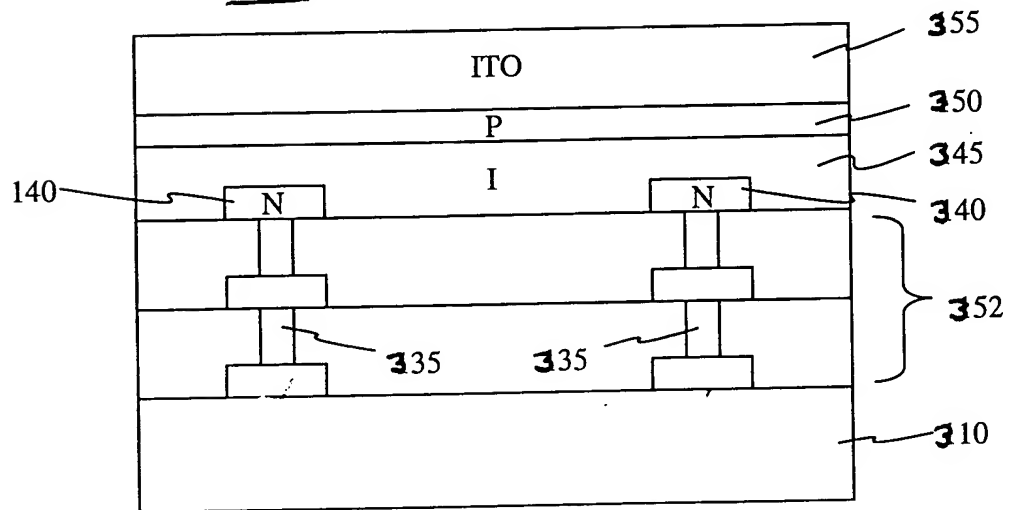


FIG. 10

Individual Pixel Cell Circuitry (Six-Transistor Architecture)

(PIN Diode)

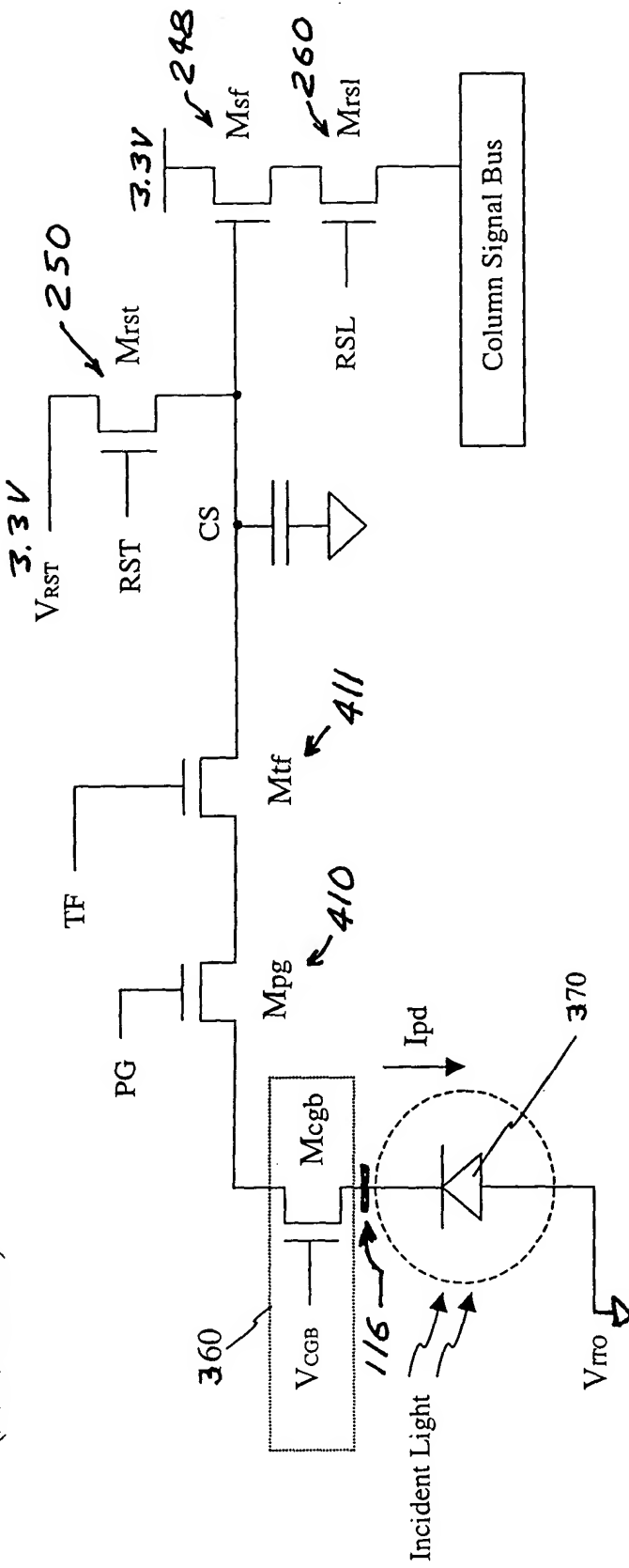


FIG. 11

Individual Pixel Cell Circuitry (Six-Transistor Architecture)

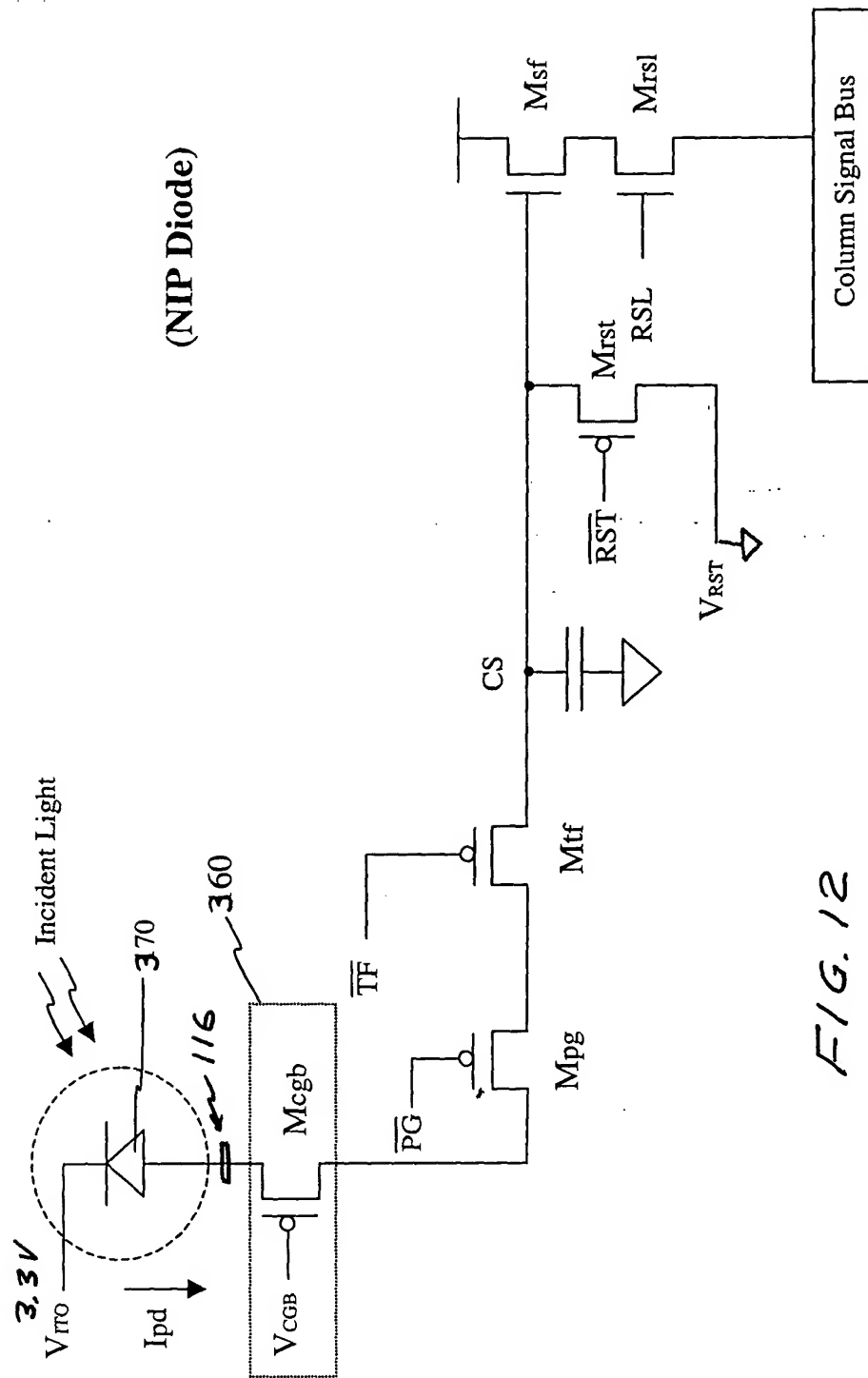


FIG. 12

700



PBIN POAP Sensor

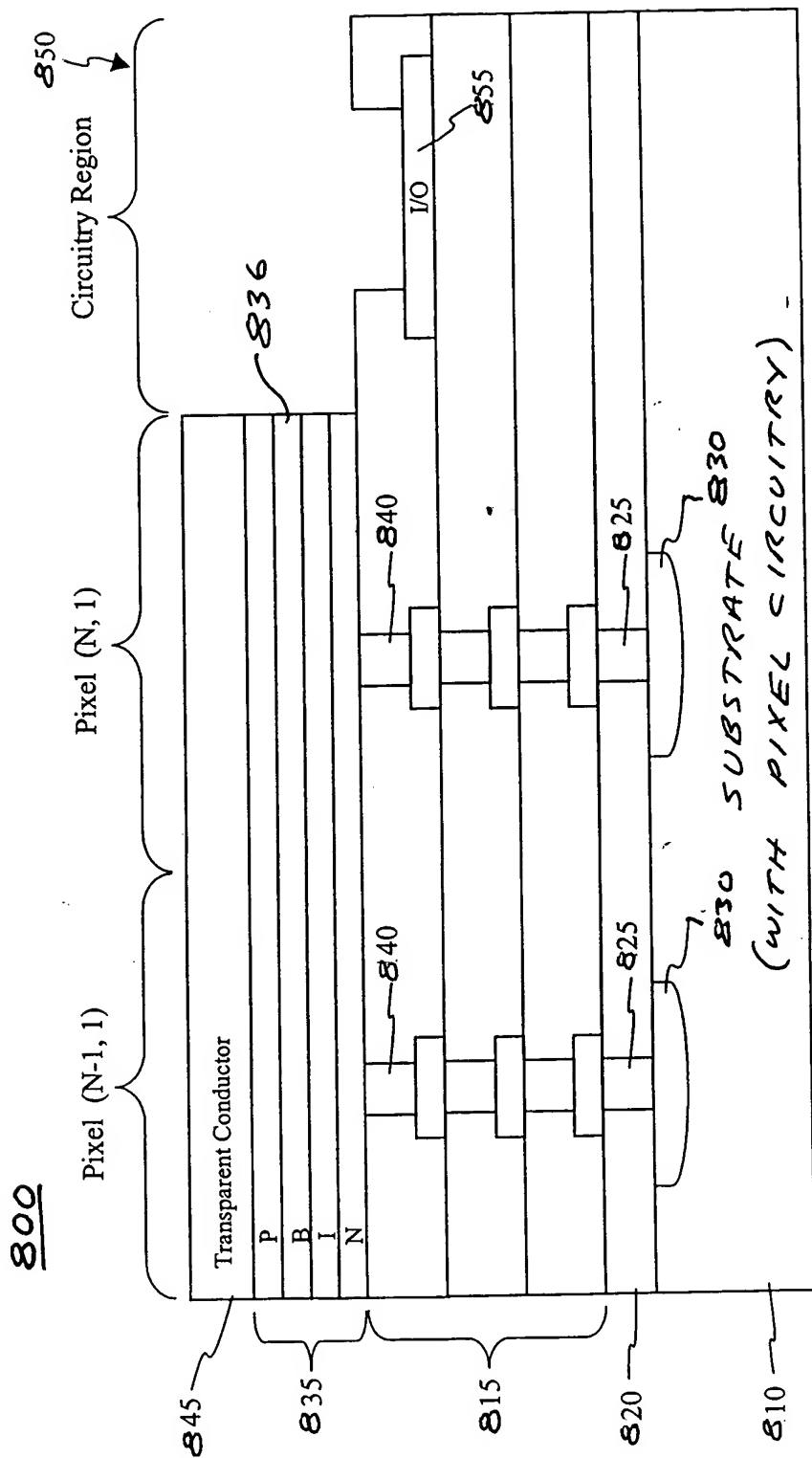


FIG. 14

PBIN Pixel Architecture

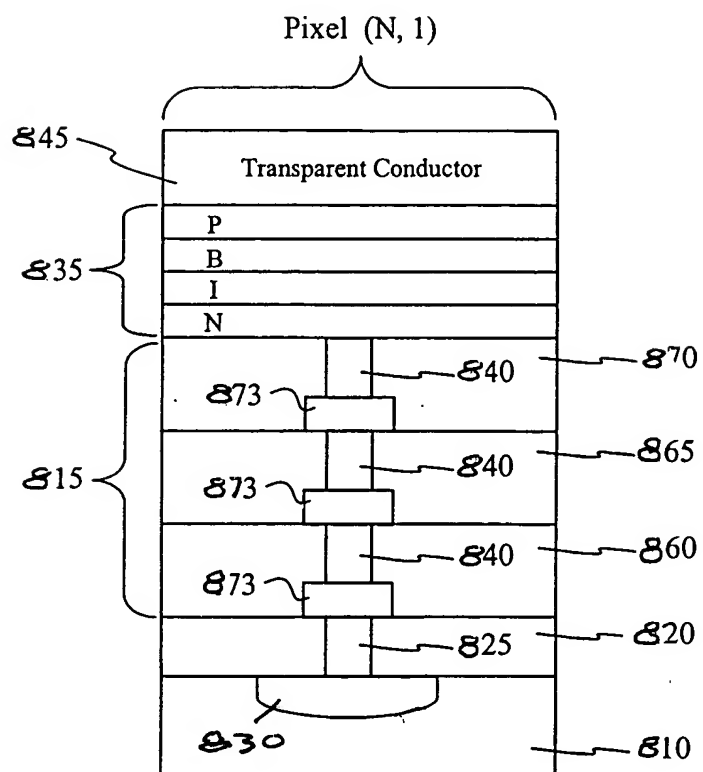


FIG. 15

PBIN Pixel Cell with Metal Pad

900

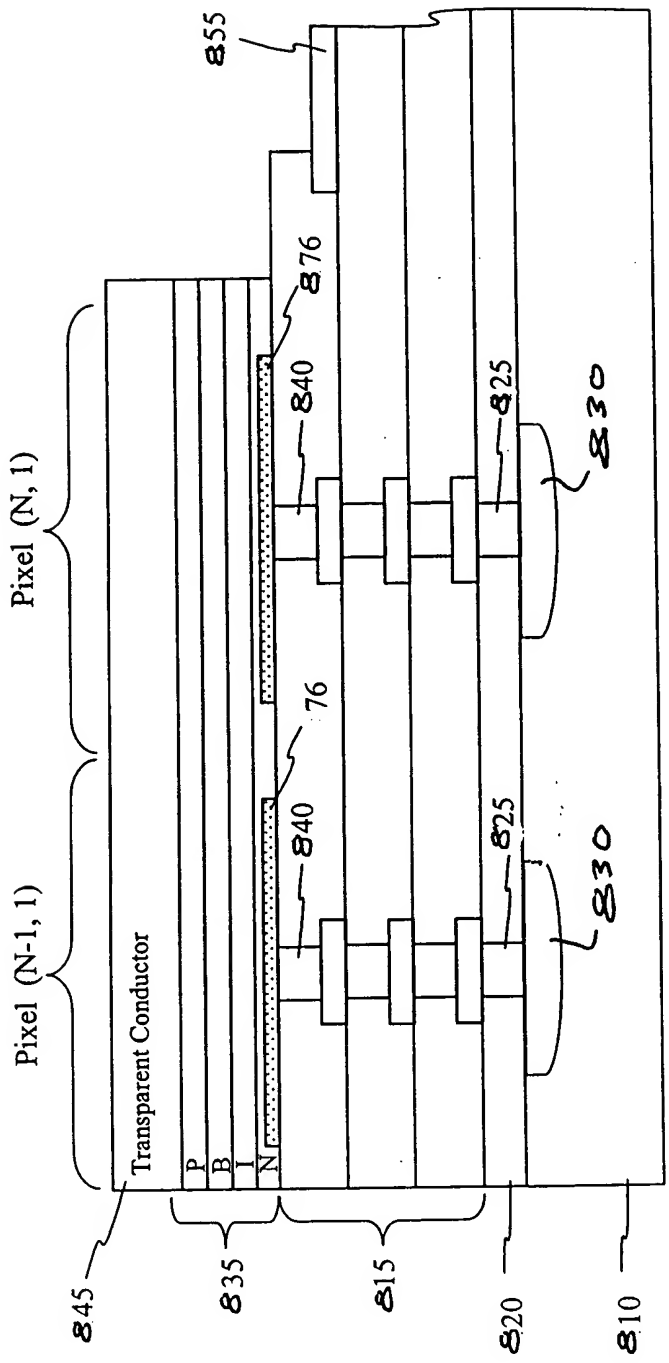


FIG. 16A

PBIN Pixel Cell with Metal Pad (Alternative Design)

950

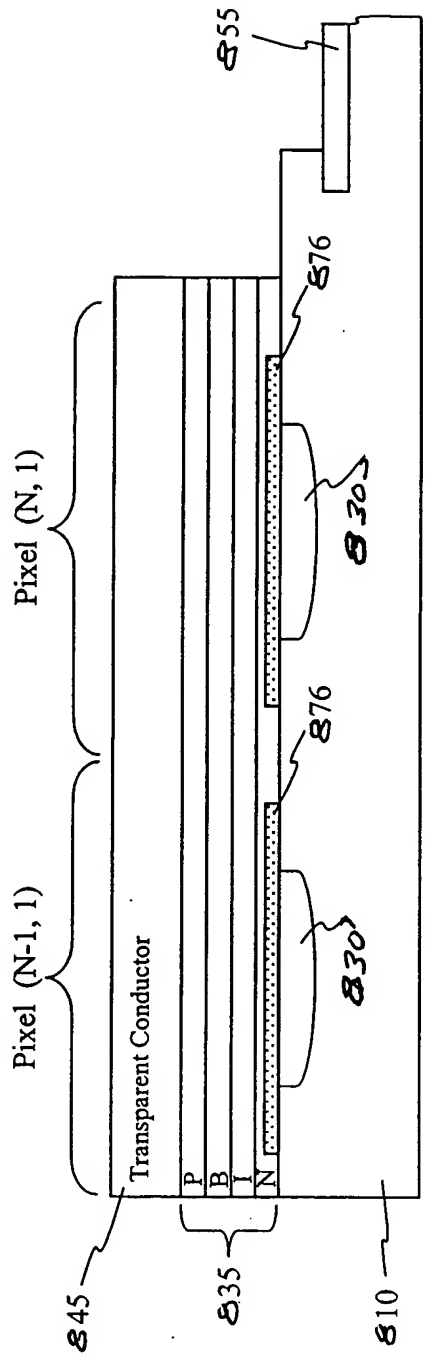


FIG. 16B

POAP Sensor Utilizing Isolated Circuitry Region

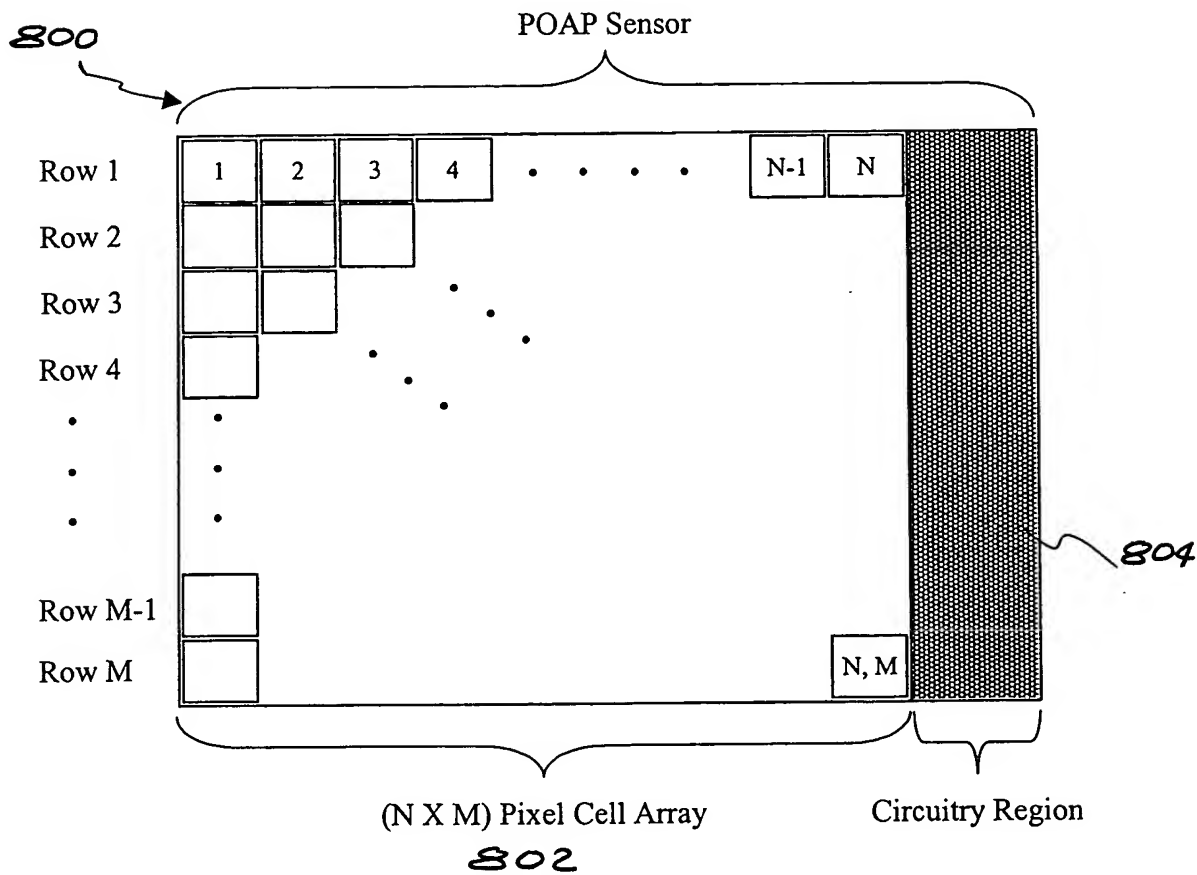


FIG. 17A

POAP Sensor Utilizing Multiple Circuitry Regions

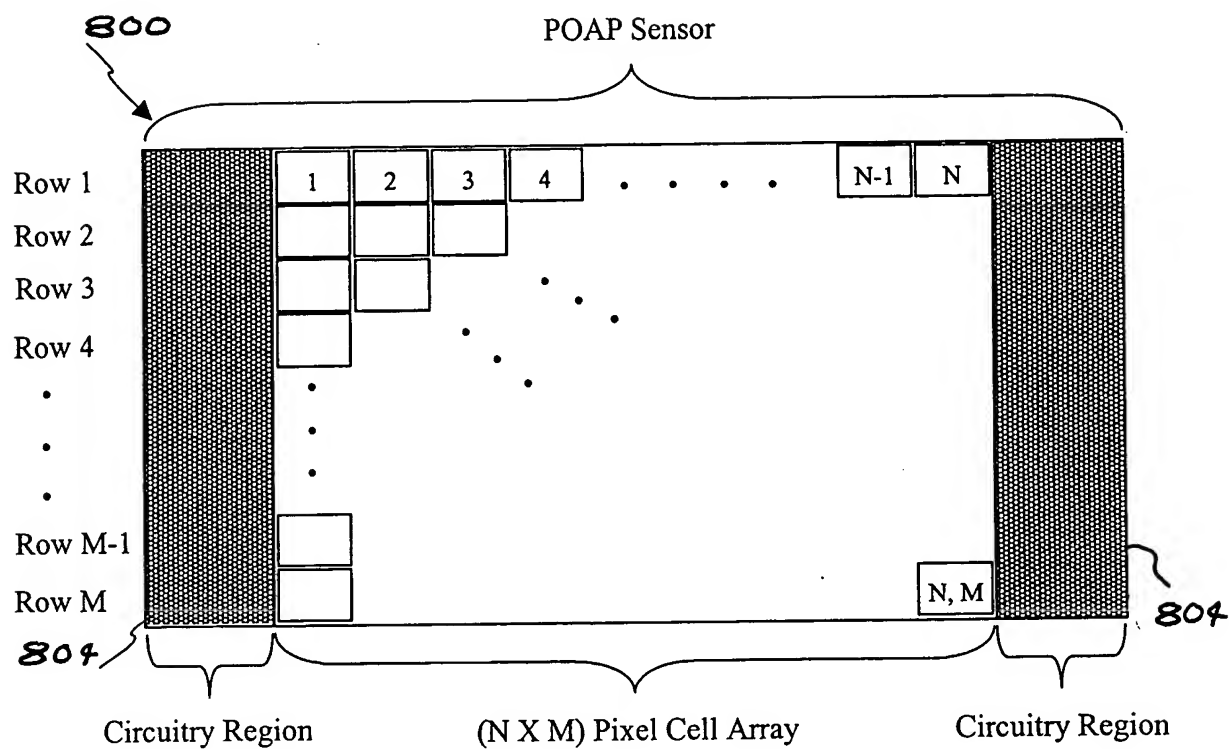


FIG. 17B

POAP Sensor Utilizing Four-Sided Circuitry Region

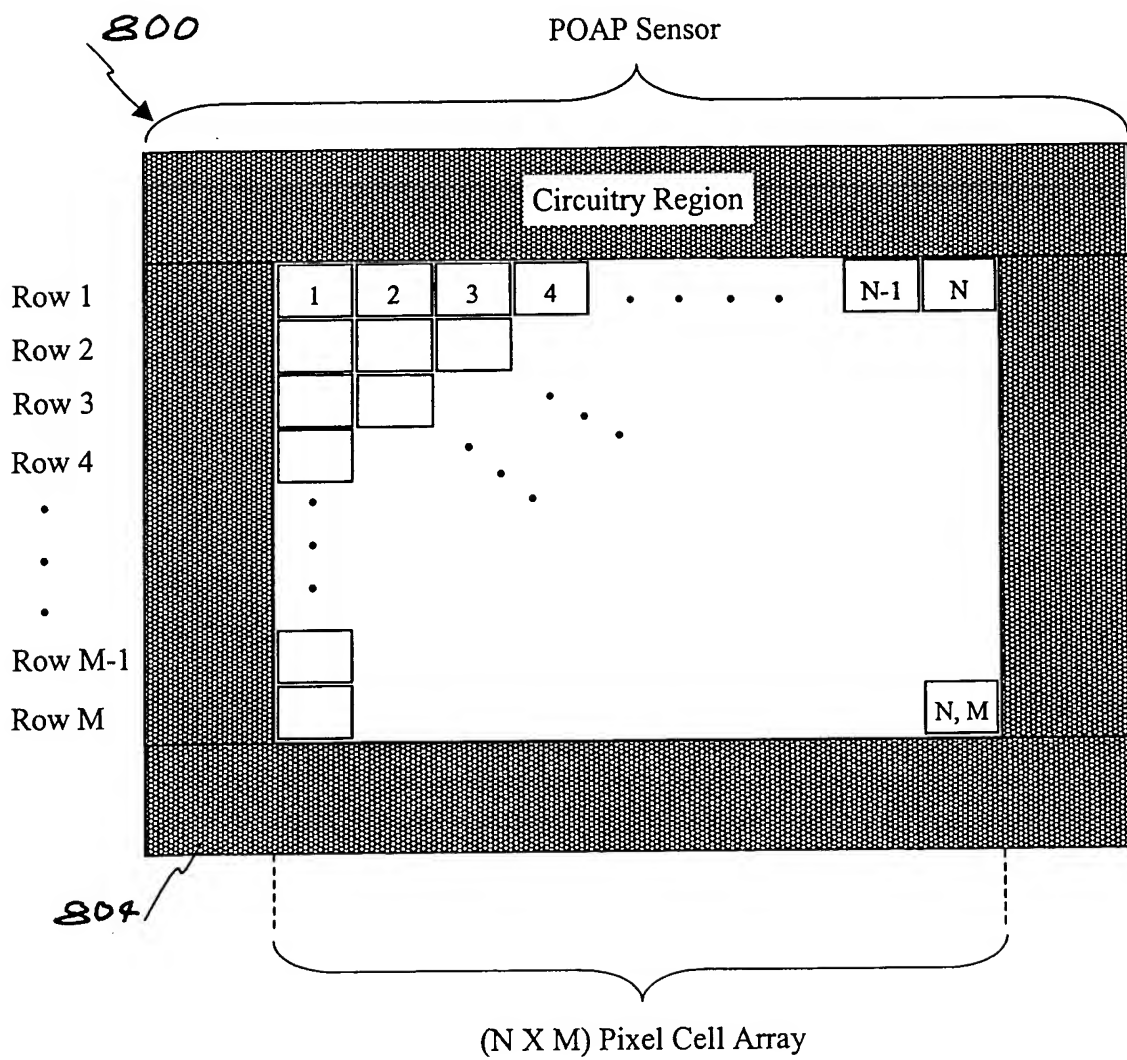


FIG. 17C

NIBP POAP Sensor

1000

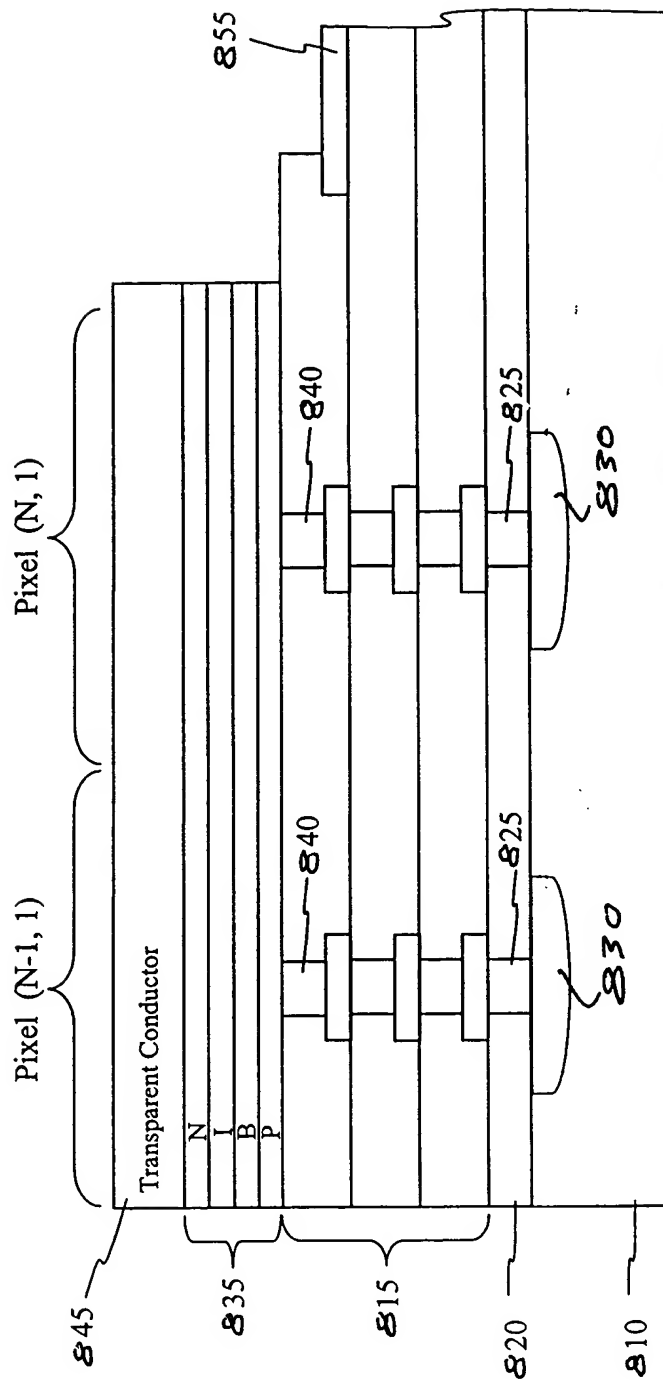


FIG. 18A

1050



FIG. 18B

POAP Sensor Having A Discontinuous Trench

1150

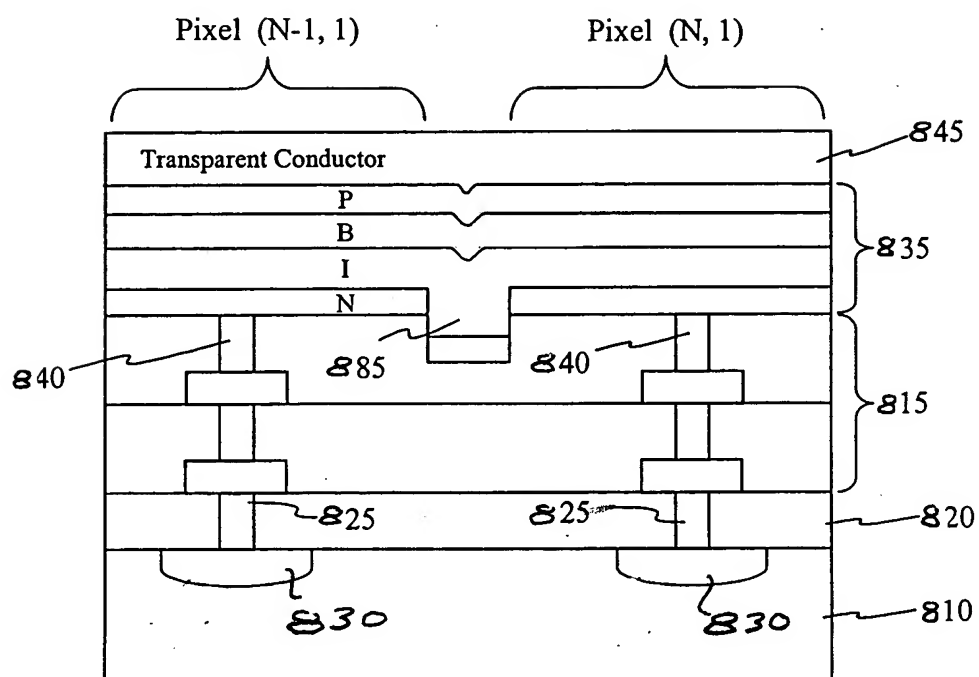
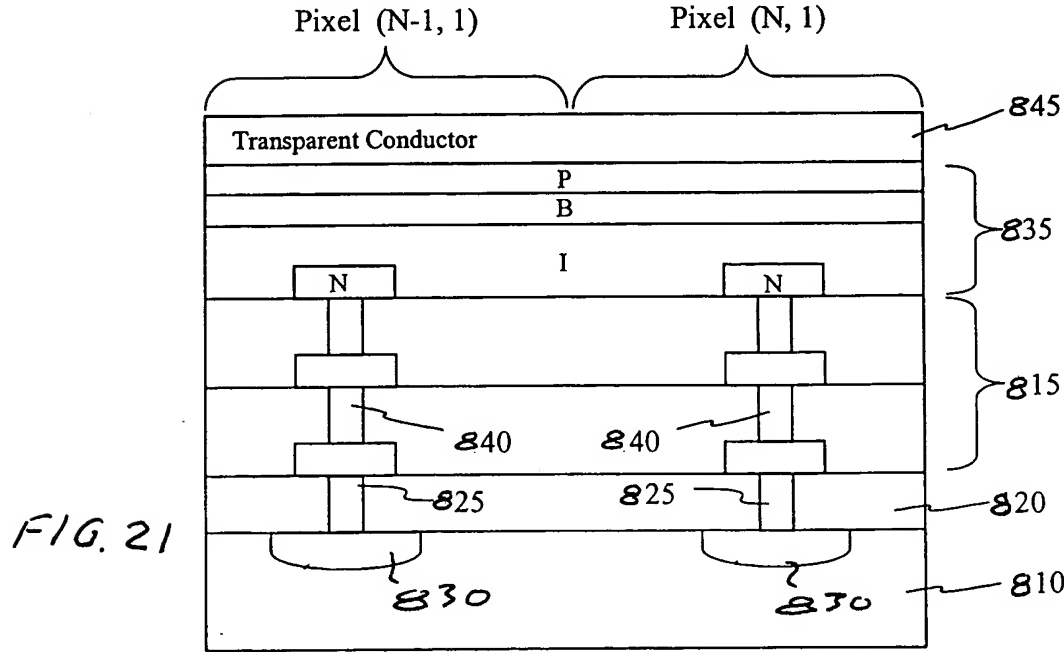
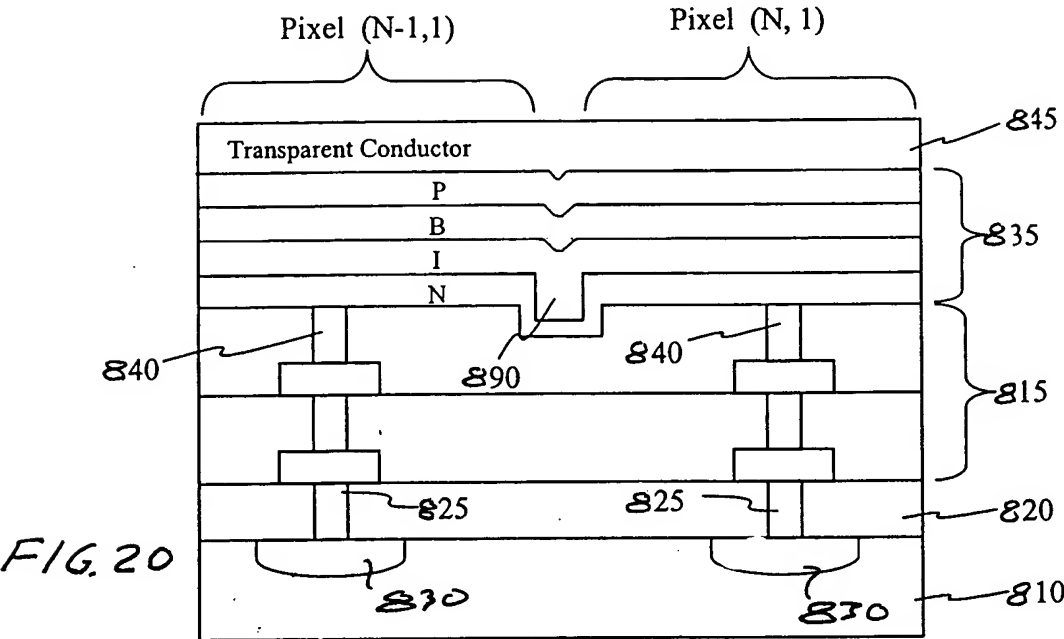


FIG. 19

POAP Sensors Having Trench And Patterned Bottom Layers



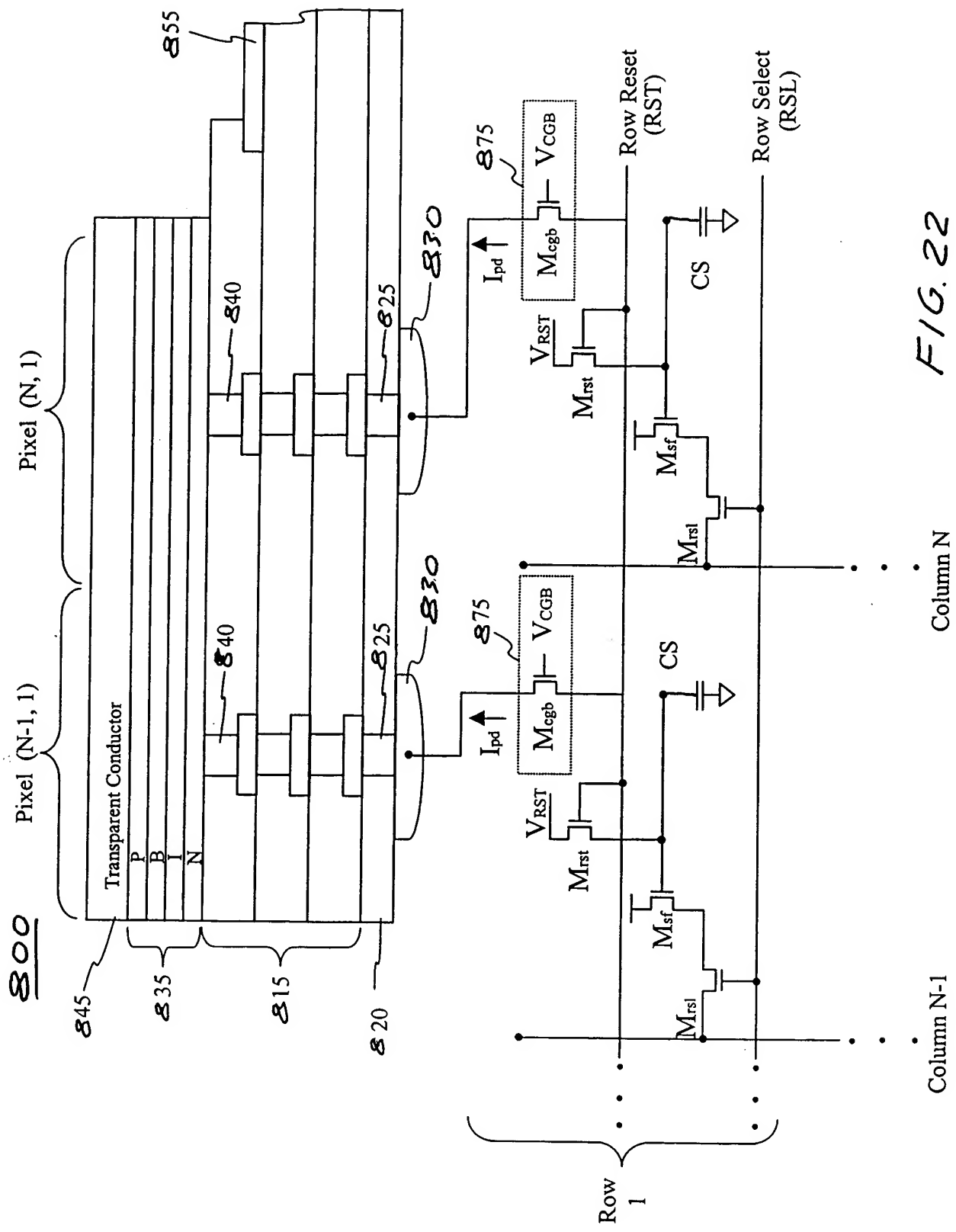
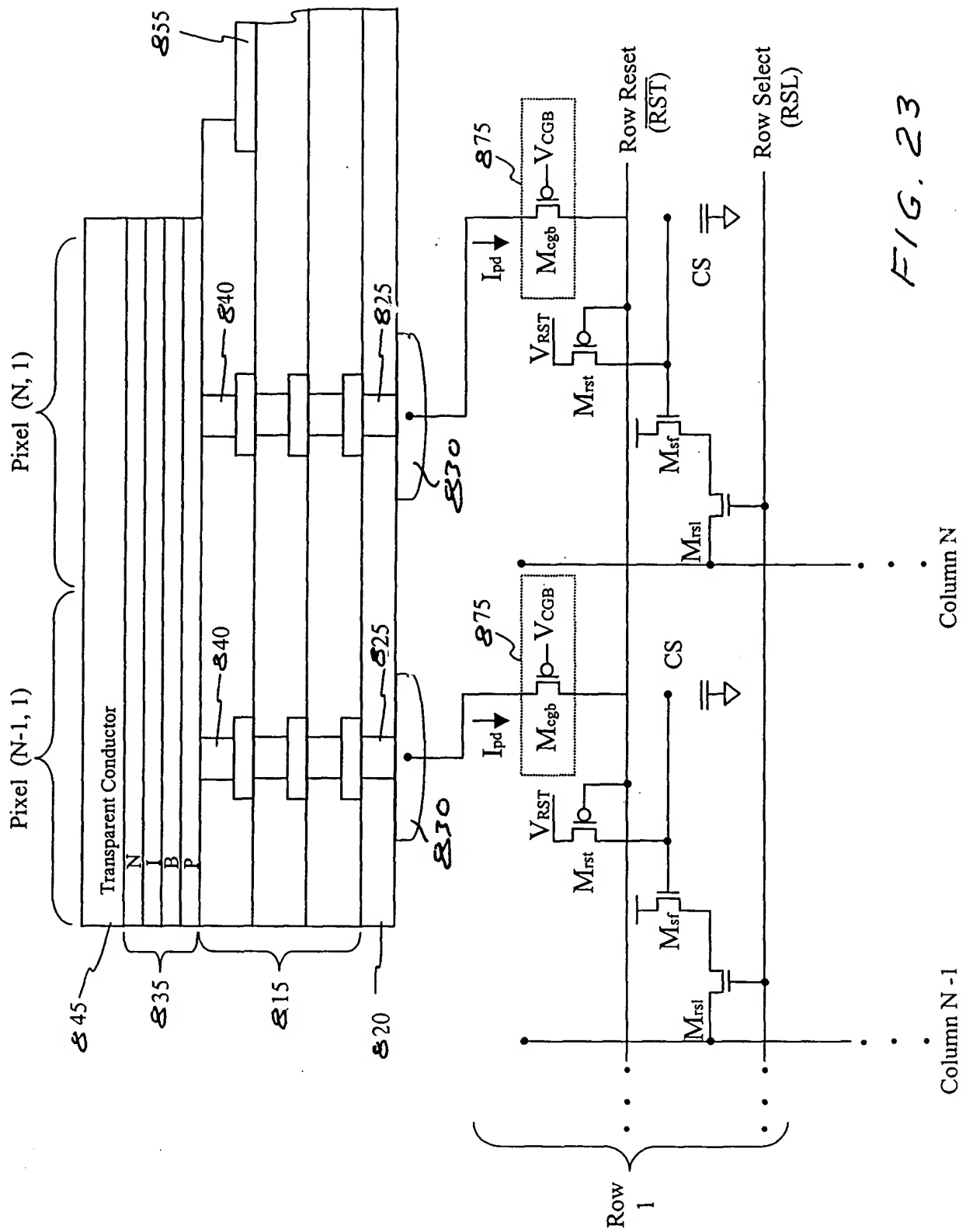


FIG. 22



Individual Pixel Cell Circuitry (Six-Transistor Architecture)

(PBIN Diode)

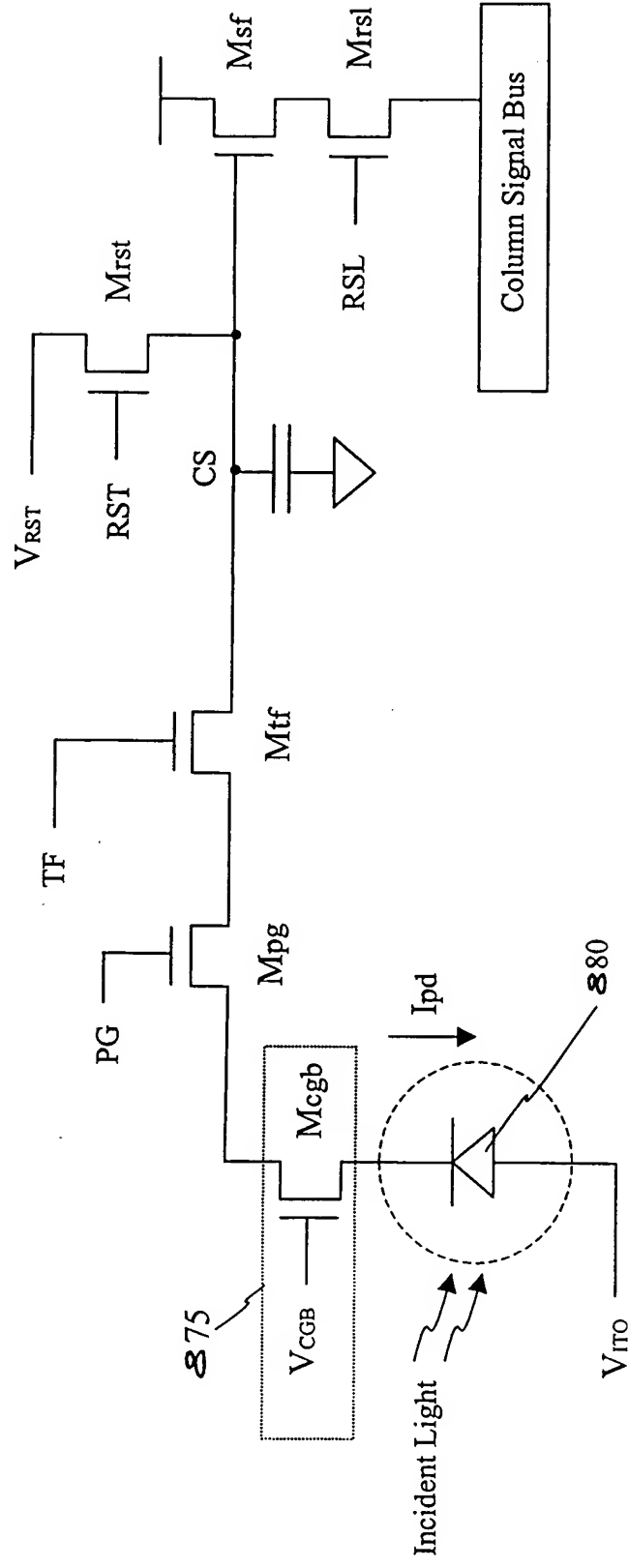


FIG. 24

Individual Pixel Cell Circuitry (Six-Transistor Architecture)

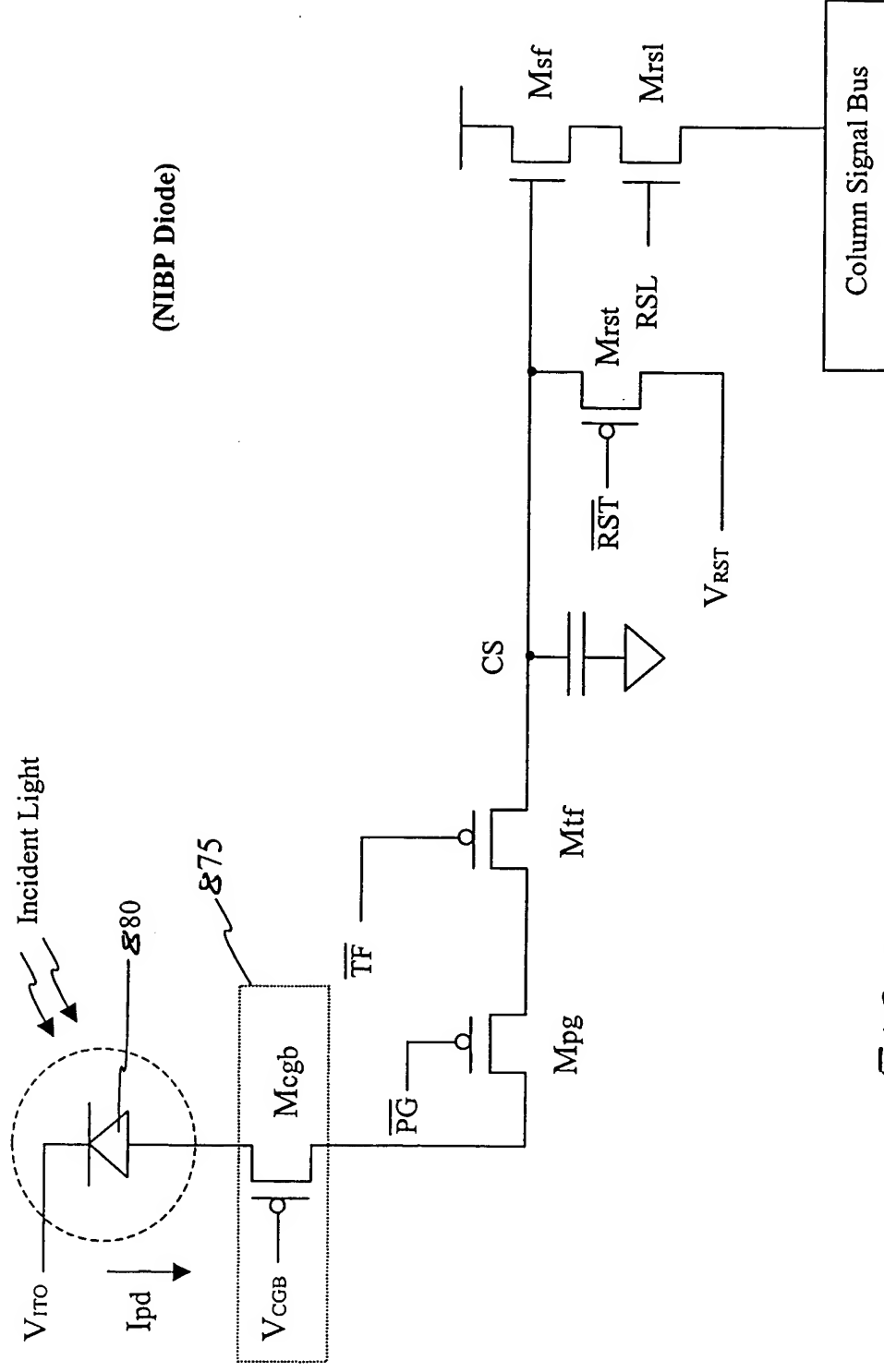
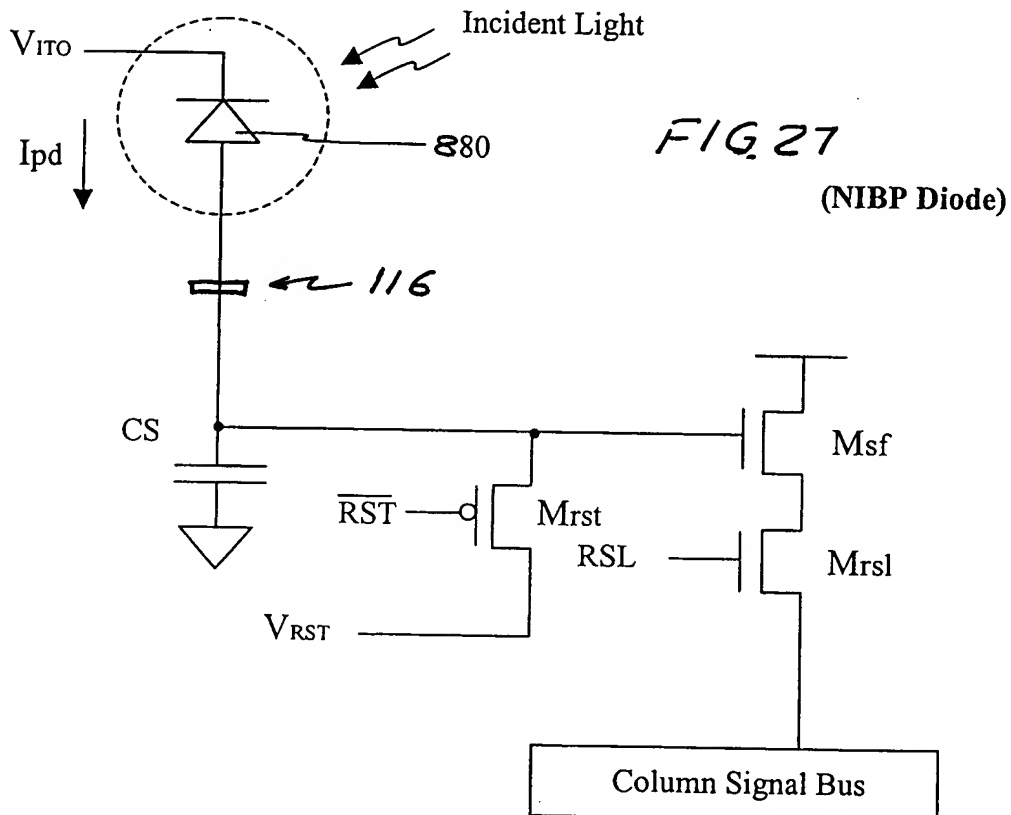
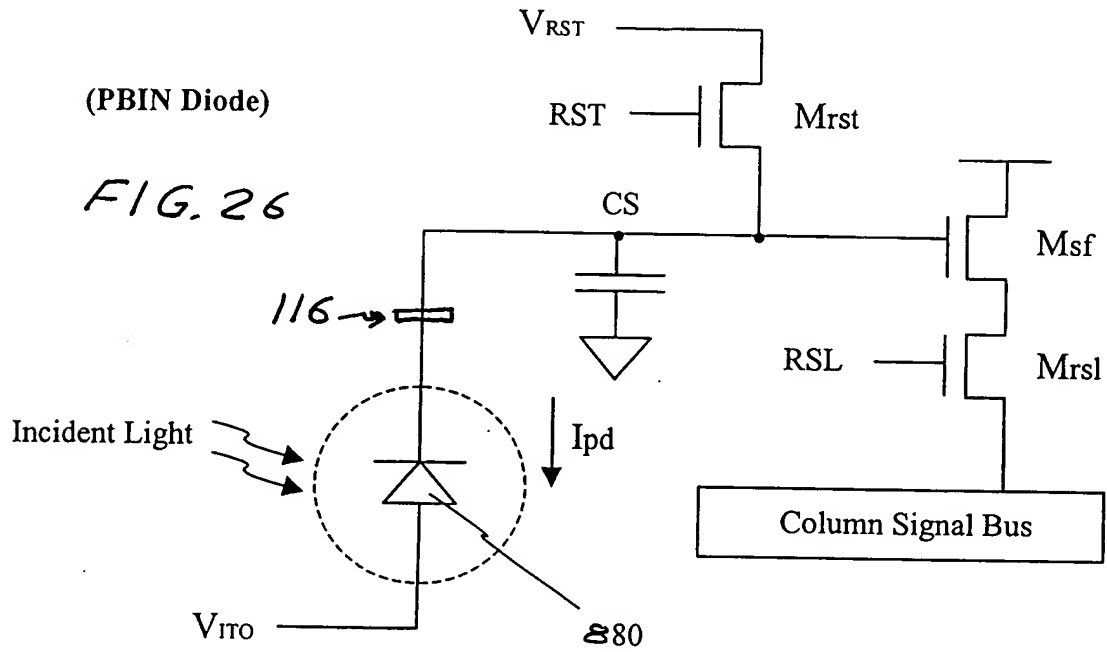


FIG. 25

Individual Pixel Cell Circuitry Without GBT



Individual Pixel Cell Circuitry Without GBT (Five-Transistor Architecture)

(PBIN Diode)

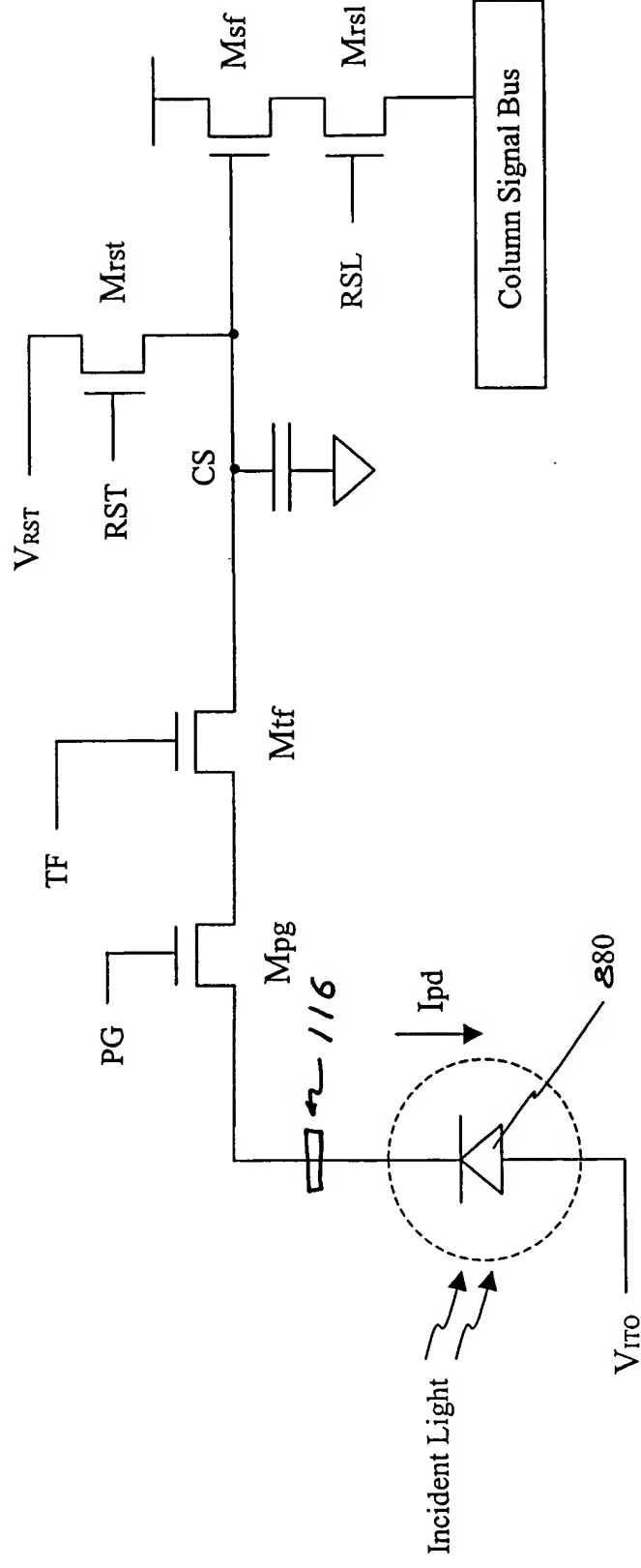


FIG. 28

Individual Pixel Cell Circuitry Without GBT (Five-Transistor Architecture)

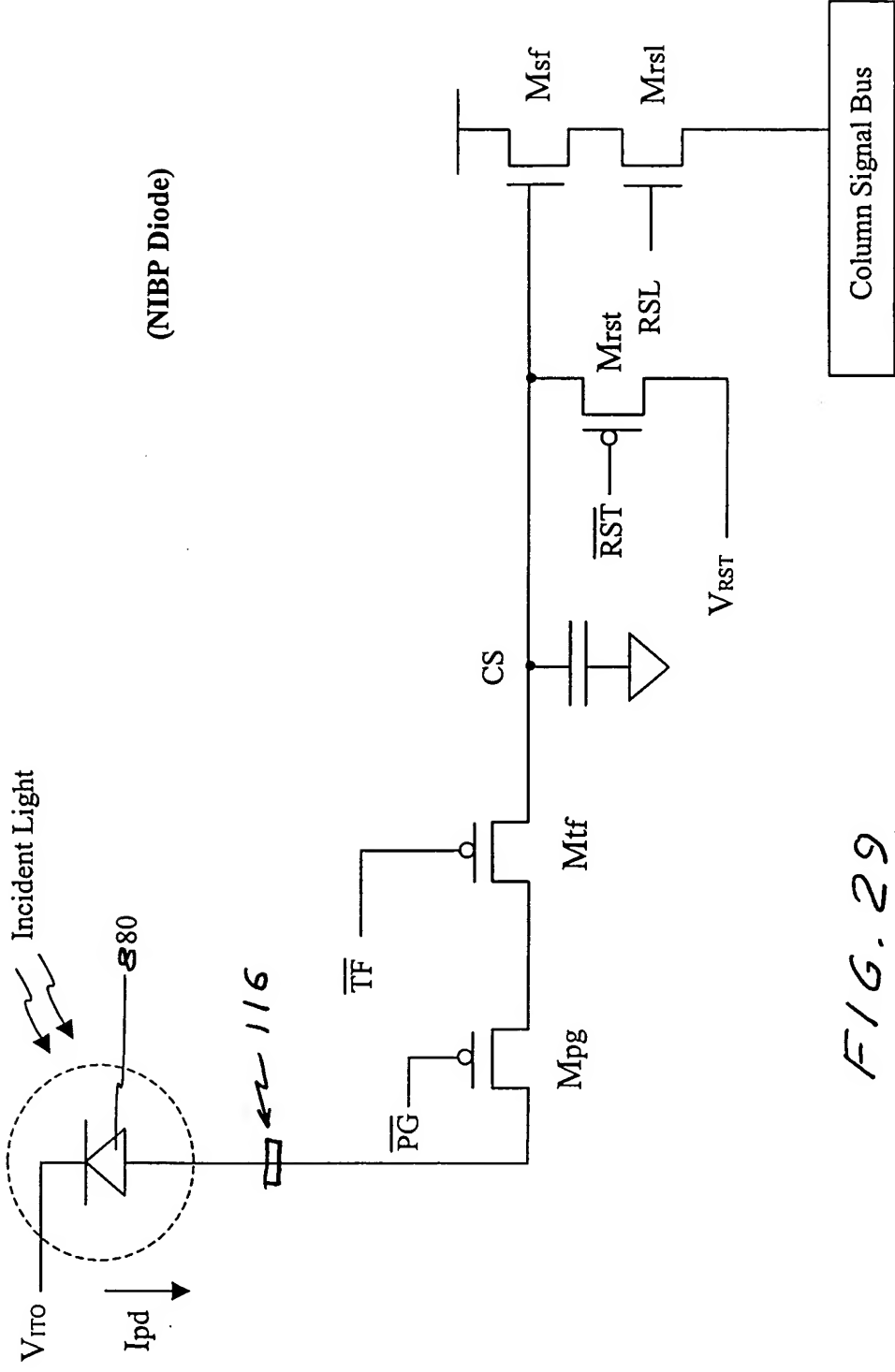


FIG. 29

Fabricating A POAP Sensor

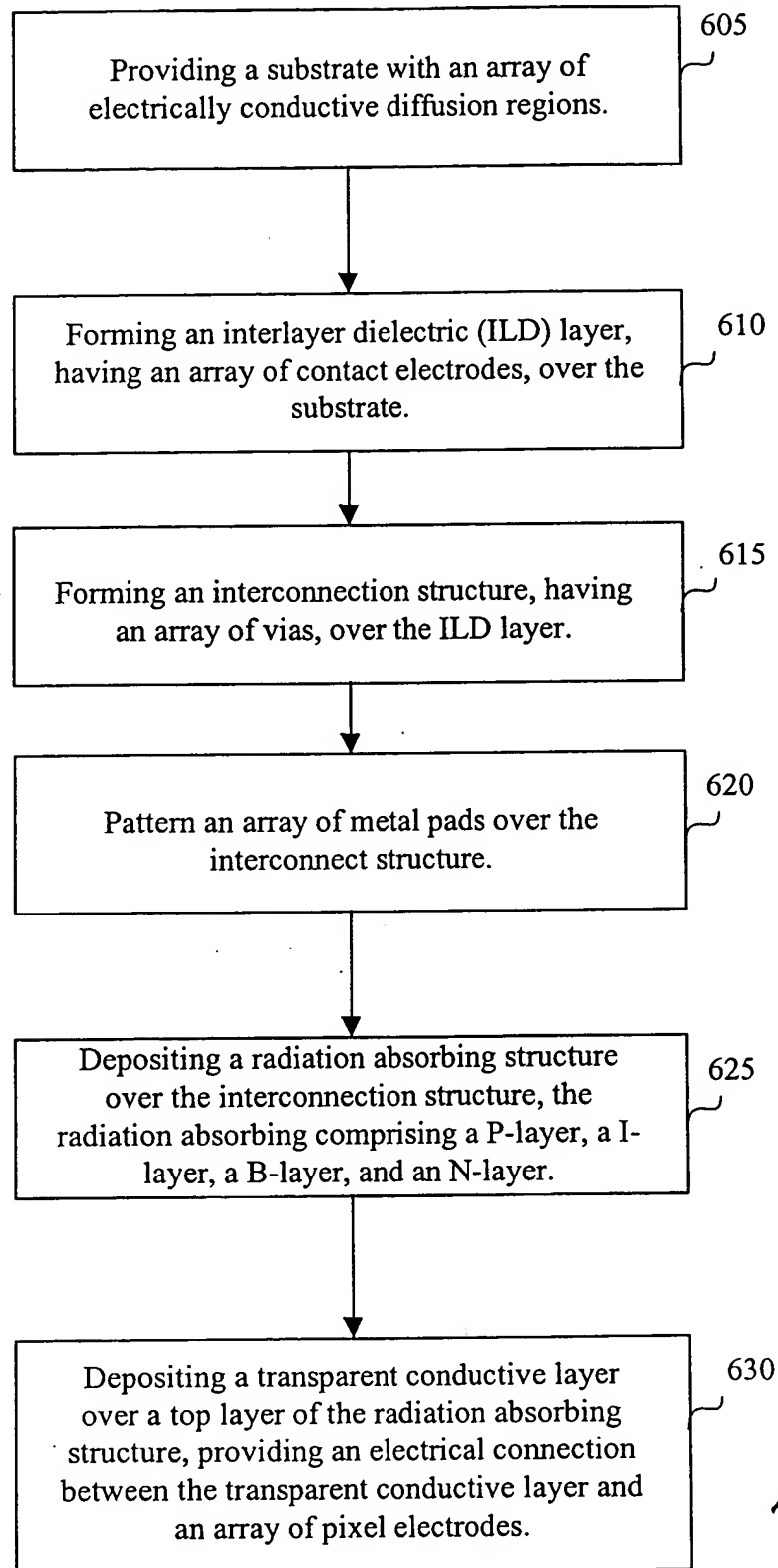


FIG. 30

POAP Sensor Fabrication

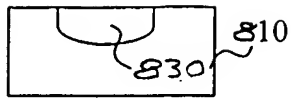


FIG. 31A

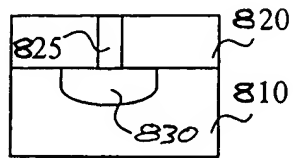


FIG. 31B

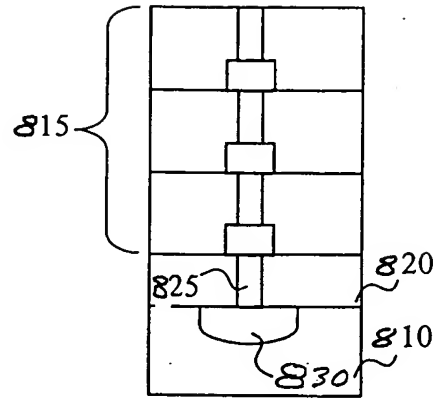


FIG. 31C

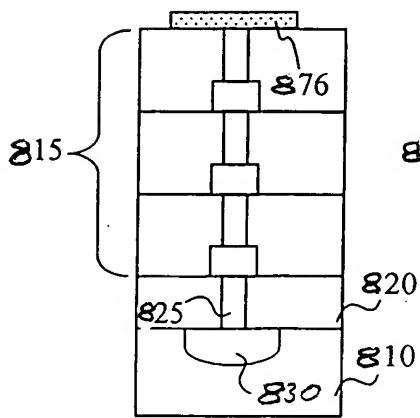


FIG. 31D

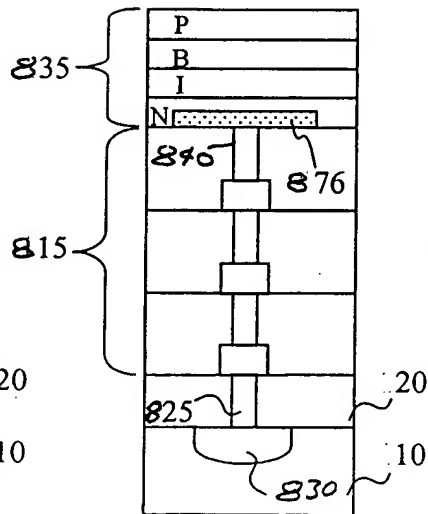


FIG. 31E

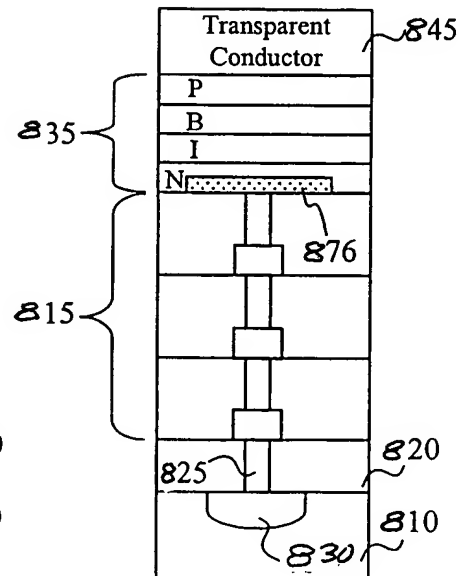


FIG. 31F